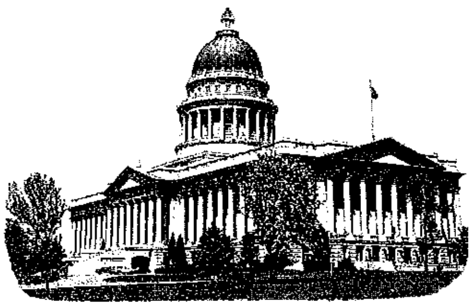
# REQUEST FOR PROPOSALS
# to
# The Utah State Legislature

## Issued by:

## The Retirement and Independent Entities Appropriations Subcommittee of

## the Utah State Legislature



## Audit of Long-Term Actuarial Projections Relating to the State Retirement System

**2010-01**

## I. RFP CONTACT

The Retirement and Independent Entities Appropriation Subcommittee of the Utah State Legislature (Retirement Subcommittee), is the issuer of this RFP and all subsequent addenda to this RFP. Inquiries regarding this RFP should be directed, in writing, to:

Thomas R. Vaughn
Associate General Counsel
Office of Legislative Research and General Counsel
Email: tomvaughn@utah.gov

## II. DEFINITIONS

As used in this RFP:

1. "GRS" means Gabriel Roeder Smith & Company, the actuary for URS.

2. "LEGISLATURE" means the Utah State Legislature, its members, staff, staff offices, and all employees and agents of the Utah State Legislature and of its staff offices.

3. "OLRGC" means the Office of Legislative Research and General Counsel, a staff office of the Utah State Legislature.

4. "PROJECTION REPORT" means the "long-term projections of key actuarial results under various scenarios" made by GRS, included in the letter (and the accompanying exhibits) attached to this RFP as "Attachment 1."

5. "RETIREMENT SUBCOMMITTEE" means the Retirement and Independent Entities Appropriation Subcommittee of the Utah State Legislature.

6. "RFP" means this Request for Proposals to the Utah State Legislature for "Audit of Long-Term Actuarial Projections Relating to the State Retirement System 2010-01."

7. "URS" means the Utah Retirement Systems.

## III. PURPOSE OF REQUEST FOR PROPOSALS

The purpose of this RFP is to enter into a contract with a qualified person or entity to:

1. Complete a comprehensive, detailed audit of the PROJECTION REPORT, including all projections, assumptions and calculations made, all data used, and all

results reached in the PROJECTION REPORT.

2. Provide the RETIREMENT SUBCOMMITTEE with a detailed written report of the audit, including:

    a. Any errors discovered in the PROJECTION REPORT and any points of disagreement with the projections, assumptions and calculations made, the data used, and the results reached in the PROJECTION REPORT.

    b. A detailed description and analysis of the errors and points of disagreement described in Section III.2.a.

## IV. QUALIFICATIONS

A person or entity responding to this RFP must be able to satisfy the RETIREMENT SUBCOMMITTEE of the person's or entity's:

1. Knowledge and expertise that will enable the person or entity to conduct the audit and make the report described in Section III.

2. Ability to understand, analyze, and organize a large amount of information in a short time.

3. Ability to determine and understand the current management, operation, and function of URS and the retirement plans discussed in the PROJECTION REPORT.

4. Ability to fairly and accurately analyze and critique the projections and assumptions made in the PROJECTION REPORT.

5. Understanding of the federal and state legal requirements relating, generally, to retirement plans and, specifically, to the URS and the retirement plans discussed in the PROJECTION REPORT.

## V. EXPECTATIONS

In addition to performing the audit and making the report described Section III, the person or entity that is awarded the contract under this RFP is expected to:

1. Quickly gain an in-depth understanding of the current management, operation, and function of URS and the retirement plans discussed in the PROJECTION REPORT.

2. Separately analyze the projections made for each scenario discussed in the PROJECTION REPORT, and all projections, assumptions and calculations made, all data used, and all results reached, for each projection.

3. Adjust each projection included in the PROJECTION REPORT to correct for any errors discovered in the PROJECTION REPORT and any points of disagreement with the projections, assumptions and calculations made, the data used, and the results reached in the PROJECTION REPORT.

4. Include in the person's or entity's report to the RETIREMENT SUBCOMMITTEE a detailed written description of the analysis and adjustments described in this Section V, including the reasons for any adjustments.

## VI. DESCRIPTION OF SUBJECT MATTER OF PROJECTION REPORT

The PROJECTION REPORT makes projections for portions of the Public Employees Retirement System for the State of Utah (both contributory and noncontributory plans) that relate to state employees and school district employees. Further information, including annual reports, relating to the URS and its retirement plans is available at:

http://www.urs.org/news/publication.shtml

## VII. ANTICIPATED TIMELINE

It is anticipated that the following timeline will be followed with respect to this RFP and the resulting contract:

RFP Opening Date: January 5, 2010 at 9:00 a.m.
Final Date for Submission of Questions: February 12, 2010 at 3:00 p.m.
Final Date for Addenda to RFP: February 26, 2010 at 3:00 p.m.
RFP Closing Date: March 16, 2010 at 3:00 p.m.
Opening of Responses to RFP: March 17, 2010, at 10:00 a.m.
Oral Presentations: April 21, 2010 at 9:00 a.m.
Award of Contract: April 21, 2010 at 1:00 p.m.
Delivery of Completed Audit: September 1, 2010 at 9:00 a.m.
Formal Presentation of Audit: September 23, 2010 at 9:00 a.m.

All times in this RFP are MST.

## VIII. SUBMISSION OF PROPOSALS

1. SUBMISSION TIME, PLACE, AND MANNER

   Twenty written copies of the proposal and one electronic copy (in PDF format) must be received at the following address on or before March 16, 2010 at 3:00 p.m. MST:

   Attention: Thomas Vaughn
   Associate General Counsel
   Office of Legislative Research and General Counsel
   Utah State Capitol Complex
   W210 House Building
   Salt Lake City, Utah, 84114

2. LATE SUBMISSIONS

   Proposals received after March 16, 2010 at 3:00 p.m. MST will not be considered.

## IX. ORGANIZATION OF PROPOSAL

The proposal must include the following information and must be organized and tabbed, with labels for the following sections, in the following order:

1. PROPOSER INFORMATION

   The first page of the proposal must include the following information, in the following format:

   a. Title: "Response to RFP for Audit of Long-Term Actuarial Projections Relating to the State Retirement System 2010-01."

   b. Proposer Summary Information:

      Name:
      Contact Person:
      Address:
      Telephone:
      Fax:
      Email:
      Federal Tax ID Number:

c. Description of Organization of the Proposer:

Describe your organization, including organizational structure, age of the organization, location of offices, website, experience, financial stability, and qualifications of key personnel to be assigned to the project.

d. List of Owners:

Provide a complete list of owners of the proposer's organization.

e. References:

List a minimum of five references, including the name of a contact person, name of organization, address, and telephone number. At least three of the references must be able to specifically address the proposer's qualifications and expertise that will enable the proposer to conduct the audit and fulfill the qualifications and expectations described in this RFP.

2. EXECUTIVE SUMMARY

A one or two page executive summary that briefly describes the essence of the proposal and highlights the major features of the proposal. Proprietary information requests should be made in this section.

3. QUALIFICATIONS

A description of the proposer's qualifications to perform and fulfill the purposes and expectations of the RFP.

4. DETAILED RESPONSE

This section constitutes the major portion of the proposal and must include the following information:

a. A complete narrative of the proposer's assessment of the work to be performed, the proposer's expertise and proposed methodology, and the resources necessary to complete the work and fulfill the requirements of this RFP.

b. A description of the proposer's understanding of the overall purposes and expectations of this RFP.

c. A clear description of any proposed options or alternatives for accomplishing the purposes and expectations of this RFP.

d. A specific point-by-point response to each requirement of this RFP and all addenda, in the order the requirement is listed in this RFP and all addenda, including a statement that the proposer agrees to comply with that requirement. A response to this RFP that fails to clearly respond to, and agree to comply with, each requirement of this RFP and all addenda may be determined to be non-responsive and invalid.

e. A proposed work plan that includes a basic plan and time schedule identifying the activities that must occur in order to timely complete the work required in this RFP and the work included in the proposal.

f. The methodology that the proposer will use to accomplish each task and to satisfy and complete the purposes and expectations described in this RFP.

g. An assessment of, and evidence supporting, the proposer's ability and commitment to accomplish the purposes and expectations of this RFP without preconceived notions or subjective bias.

5. PROPOSED BUDGET

A detailed, enumerated draft budget for the proposal. This budget will include hourly rates that will be charged for each portion of the audit and a maximum total amount that proposer may charge for the audit, including all expenses and charges related to the audit.

6. CONFLICTS

The proposer shall include a signed statement indicating that the proposer has no relationship with any person or entity that would directly or indirectly interfere with fair competition for an award under this RFP.

## X. OTHER REQUIREMENTS

The proposer's name must appear on each page of the proposal. Erasures, cross-outs, alterations, corrections, or other changes must be initialed by the person who signs the proposal. The proposal must contain evidence that the person who signs the proposal is authorized to bind the proposer to fulfill the proposal and to conduct negotiations and discussions relating to the proposal on the proposer's behalf.

## XI. CONTRACT

The successful proposer will be required to enter into the contract attached to this RFP as Attachment "2". The contract will be modified prior to execution of the contract to include the name of the successful proposer, specific details relating to the proposer and the proposer's response to this RFP, and correct dates and times.

## XII. PROPOSAL AND PRICE GUARANTEE PERIOD

Each proposal submitted in response to this RFP, and the prices included in that proposal, are binding on the proposer from the date and time of the closing of this RFP until the later of 90 days after the day on which the RFP closes, or, if the proposer's proposal is accepted, upon completion of the services that the proposer is required to provide under this RFP and the attached contract.

## XIII. ORAL PRESENTATIONS

Each proposer will, at the proposer's expense, appear at a committee meeting to make an oral presentation of, and answer questions regarding, the proposer's response to this RFP. The meeting for this presentation is currently scheduled for April 21, 2010 at 9:00 a.m., at the Utah State Capitol Complex.

## XIV. QUESTIONS

Questions, requests for changes to this RFP, and requests for clarification must be submitted by email to tomvaughn@utah.gov on or before February 12, 2010 at 3:00 p.m. Responses to substantive questions, responses to requests for clarification, and responses to requests for changes will be provided in the form of an addendum to this RFP.

## XV. ADDENDA

All addenda to this RFP will be posted on the Utah Legislature's website at:

http://le.utah.gov

Addenda, and notifications of addenda, are not required to be provided in any other manner. All proposers, potential proposers, and other interested persons are required to check the website on a regular basis in order to receive notice of, or a copy of, any addendum.

The RETIREMENT SUBCOMMITTEE may attempt to, but is not required to, provide email notification of an addendum to any person who sends a request to receive notification to:

tomvaughn@utah.gov

Each proposer is required to acknowledge receipt of each addendum by email to:

tomvaughn@utah.gov

## XVI. PROTECTED INFORMATION

Protection or disclosure of information submitted in response to this RFP is governed by Title 63G, Chapter 2, Government Records Access and Management Act. A proposer who desires to request protected status of any information submitted in the proposer's response to this RFP must specifically identify the information that it desires to protect and the reasons that the information should be afforded protected status under the law. In making this request, the proposer shall comply with the requirements of Utah Code Section 63G-2-305, Utah Code Section 63G-2-309, and all other applicable requirements of law. The RETIREMENT SUBCOMMITTEE's decision regarding the protected status of information shall be final and binding on the proposer. Each proposer will indemnify, defend, and hold forever harmless, the Utah Legislature, its members, offices, and staff, from any and all liability relating to the disclosure of information included in the proposer's response to this RFP, even if the proposer requested protected or other confidential status for the information.

## XVII. MODIFICATIONS TO, OR WITHDRAWAL OF, PROPOSAL

1. PROCEDURE

A proposer may modify or withdraw the proposer's response to this RFP at any time before the closing date and time of this RFP, by providing a written modification or a written statement withdrawing the proposal to OLRGC. Except as provided in Section XVII.2, modifications or letters of withdrawal received by the OLRGC after the closing date and time for this RFP will be rejected as invalid. Except as provided in Section XVII.2, the version of a response to this RFP, as it exists at the closing date and time of this RFP, will be binding on the proposer.

2. EXCEPTION

Discussions may be conducted with offerors (proposers) who submit proposals determined to be reasonably susceptible of being selected for award, but proposals may be accepted without discussions. Pursuant to Utah Code Subsection 63G-6-408(5)(b), ". . . revisions may be permitted after submissions and before the contract is awarded for the purpose of obtaining best and final offers." Pursuant to Utah Code Subsection 63G-6-408(5)(c), "[i]n conducting discussions, there shall be no disclosure of any information derived from proposals submitted by competing offerors." Revisions to proposals after the closing date and time of this RFP may only be permitted by written permission of the RFP contact. Each proposer will receive equal treatment. If the RETIREMENT SUBCOMMITTEE decides to enter into discussions with proposers after the closing date of this RFP, but before award of the contract, the RETIREMENT SUBCOMMITTEE will inform each proposer who submitted a timely, valid proposal of the schedule for these discussions and procedures for submission of a revised proposal.

## XIII. COST OF RESPONDING TO RFP AND CONTRACT NEGOTIATIONS

All expenses relating to responding to this RFP, including, but not limited to, preparing, submitting, and presenting a proposal, attending meetings in relation to this RFP, site visit expenses, and all travel, dining, lodging, and communication expenses will be borne by the proposer. The LEGISLATURE assumes no liability for any costs incurred by a proposer in responding to this RFP.

All expenses of the successful proposer relating to conducting contract negotiations, including, but not limited to, drafting, research, legal review, preparation, attending meetings, site visits, travel, dining, lodging, and communication expenses will be borne by the proposer. The LEGISLATURE assumes no liability for any costs incurred by a proposer relating to contract negotiations.

Proposer will not bill the LEGISLATURE for any expense incurred prior to the time that the contract is signed by all parties.

## XIX. RESEARCH REGARDING PROPOSER

The RETIREMENT SUBCOMMITTEE reserves the right to conduct a background check of each person or entity that may assist in providing services under a response to this RFP, to determine the person's fitness and qualifications to fulfill the requirements of this RFP. The RETIREMENT SUBCOMMITTEE may reject any response to this RFP that involves services from a person or entity that the RETIREMENT SUBCOMMITTEE determines is unfit or unqualified to fulfill the requirements of this RFP. Upon request by the RETIREMENT SUBCOMMITTEE, proposer shall obtain, at proposer's expense, a criminal background check from the Utah Department of Public Safety, Bureau of Criminal Investigation for the proposer, each officer of the proposer, and each person associated with the proposer who will perform the work described in this RFP. Proposer will provide the RETIREMENT SUBCOMMITTEE with the results of each criminal background check obtained at the request of the RETIREMENT SUBCOMMITTEE.

## XX. PROPOSAL EVALUATION CRITERIA

The the RETIREMENT SUBCOMMITTEE will evaluate each response to this RFP and will award the contract. The RETIREMENT SUBCOMMITTEE will evaluate each proposer and each response to this RFP based on the following factors:

| Points | Criteria |
|---|---|
| 50 | The qualifications, level of expertise, and experience of the proposer that will enable the proposer to most effectively fulfill the purposes, expectations, and requirements of this RFP. |
| 30 | The evidence that establishes that the proposer understands the concepts included in this RFP and the purposes, expectations, and requirements of this RFP. |
| 20 | Overall cost of the audit described in this RFP in relation to the purposes, expectations, and requirements of this RFP. |

## XXI. MISCELLANEOUS RESERVATION OF RIGHTS

The RETIREMENT SUBCOMMITTEE reserves the right to not award a contract to any of the proposers who respond to this RFP, to cancel this RFP at any time, or to issue a new RFP for the same or similar services. The RETIREMENT SUBCOMMITTEE reserves the right to reject and not consider any response to this RFP that does not strictly comply with the requirements of this RFP or with the requirements of law.

## XXII. RESTRICTIONS ON PUBLICITY

The successful proposer may not make any announcement regarding the award of the contract relating to this RFP without the prior written approval of the RETIREMENT SUBCOMMITTEE. Except as specifically authorized in the contract, the successful proposer may not refer to the Utah Legislature or use any data, pictures, or other representation of the Utah Legislature in its advertising, marketing, or other promotional efforts.

## XXIII. DEVIATIONS AND EXCEPTIONS

The proposer shall describe, in writing, any deviations or exceptions from the requirements, terms, and conditions of this RFP. This description shall be in a separate document that is attached to the proposer's response to this RFP and is signed by the proposer or the proposer's authorized agent. In the absence of such a document, the proposal shall be interpreted to agree to the requirements, terms, and conditions of this

RFP and the proposer shall be held liable for any deviations from the RFP.

ATTACHMENT 1

GRS

Gabriel Roeder Smith & Company
Consultants & Actuaries

5605 N. MacArthur Blvd.
Suite 870
Irving, TX 75038-2631

469.524.0000 phone
469.524.0003 fax
www.gabrielroeder.com

November 10, 2009

The Honorable Daniel R. Liljenquist
Senate Chair
Retirement and Independent Entities Committee
Utah State Capitol
Salt Lake City, Utah 84114

**Re: Information Requested by Committee for Nov. 12th Meeting**

Dear Senator Liljenquist:

At the last meeting of the Retirement and Independent Entities Committee, on September 9th, we told the committee that we would provide long-term projections of key actuarial results under various scenarios. We also said we would project funding requirements if participation is frozen and all future members are covered by some other retirement plan. These projections have been done only for the Public Employees Retirement System (Contributory and Noncontributory) for the State & School Division. The results for the contributory and noncontributory divisions are shown on a combined basis.

**Baseline (Exhibit One)**

The first projection we will discuss is the baseline. It projects forward the results of the January 1, 2009 actuarial valuation for forty years, assuming the fund will earn 7.75% net of all expenses each year in the future. (The 7.75% return rate is the assumed return used in the actuarial valuations.) This projection also assumes the State of Utah will contribute the actuarially determined contributions each year as set by the Board of Trustees under its current policies.

Exhibit 1, attached, shows the results of this projection. We have shown the results for each of the next five years, and then every fifth year thereafter. Some of the results are shown by fiscal year, including the contribution rate, the contribution amount, and the ARC (Annual Required Contribution in accordance with Governmental Accounting Standards Board Statement No. 25). Other results, such as the unfunded actuarial accrued liability (UAAL), the funded ratio, and the market value of assets (MVA), are shown as of the valuation date that determined the contribution rate (the January 1 occurring eighteen months prior to the beginning of the fiscal year). For example, the January 1, 2009 actuarial valuation is used to determine the contribution rate for the fiscal year beginning July 1, 2010 and ending June 30, 2011 (FY 2011).

Under this baseline projection, as long as the fund is not 110% funded, the contribution rate is the larger of (a) the ARC for the year, or (b) the prior year's contribution. This is because the URS Board of Trustees has a policy, permitted under Utah Code § 49-11-301(5), of not allowing a contribution rate decrease unless the funded ratio is at least 110%. Once the funded ratio reaches 110%, the contribution rate becomes the normal cost. We discuss the calculation of the ARC later.

The employer contribution rates shown on the attached do not include the 1.50% 401(k) contribution or the contribution—0.16% or 0.15%, depending on the year—that goes to PEHP to pay for a lump-sum death benefit. Further, the contribution rates shown exclude the 0.85% which is used to the fund the 3% substantial substitute (3%SS). (The 3%SS is an additional benefit for the closed group of members who were in the system before January 1, 1989. It is funded separately, although it is collected from the State as part of the contributions made for all State employees and teachers.) The rates shown are the weighted average of the rates for Fund 12 (Contributory State & School) and Fund 16 (Noncontributory State & School).

For example, the 13.25% employer rate shown for the fiscal year ending June 30, 2010 (FY 2010) was arrived at as follows:

| Calculation of FY 2010 Employer Rates | Contributory State & School | Noncontributory State & School |
|---|---|---|
| 1. Rate collected for FYE June 30, 2010 | 15.73% | 15.72% |
| 2. Less: 1.50% 401(k) contribution | -0.00% | -1.50% |
| 3. Less: 0.16% for PEHP death benefit | -0.16% | -0.16% |
| 4. Less: 0.85% for 3% Substantial Substitute | -0.85% | -0.85% |
| 5. Net for retirement funds | 14.72% | 13.21% |

Then these rates for the contributory and noncontributory systems were weighted together by projections of the respective payrolls for the two funds—a little less than 2.5% of the combined payroll is for members in the contributory system—producing the 13.25% employer contribution rate shown on the exhibit.

Note that the rate for the contributory system includes the member contribution rate, which we understand is paid by the employer.

As you can see, contribution rates on Exhibit 1 will increase beginning in FY 2011, and continue increasing until reaching a peak of 23.10% in FY 2016 (not shown), after which the rate remains constant at this level until the plan becomes 110% funded. Over the six years from FY 2010 through FY 2016, contribution rates increase 9.85 percentage points (23.10% - 13.25%). As the large investment loss from 2008 is recognized 20% per year over the valuations from Jan. 1, 2009 through Jan. 1, 2013, the funded ratio will decrease to around 70% and the UAAL will increase to about $6 billion. After that, funded ratios improve steadily and reach 100% in 2037.

**Other Investment Scenarios**

We were asked to show what would happen under various investment scenarios. While Exhibit 1 projected based on a constant 7.75% market return, Exhibits 2-5 vary this pattern as follows:

- Exhibit 2 assumes a constant return of 6.00% per year

- Exhibit 3 assumes a constant return of 7.00% per year.
- Exhibit 4 simulates a W-shaped recovery by assuming a 15% return in 2009, a -20% return in 2010, and a 15% return in 2011, followed by a constant 7.75% return in all subsequent years
- Exhibit 5 looks at what happens if you earn 8.50% in each year

As you can see, Exhibit 2 shows the contribution rates climbing even higher than under the baseline scenario. Under the 6% return scenario, contributions would rise to 23.68% in FY 2015, but unlike the baseline, would keep rising, reaching a rate of over 26% of pay within 20 years, then staying at that level. The funded ratio under this scenario falls quickly to 68%, then continues to erode, but more slowly, ultimately reaching a low of about 64%. It is frankly comforting that the results are not any worse than this with a 6.00% assumed return for the entire 40-year projection period.

Under the 7% return scenario, contributions would reach a peak of a little less than 24% and the funded ratio would, after falling to just below 70%, slowly increase back to 90%. Exhibit 4 (W-shaped recession) shows the contribution rate peaking at over 27%. Funded ratios have reached over 100% by the end of the projection period. Under the optimistic scenario in Exhibit 5, contribution rates will increase at first, as the 2008 loss is phased into the actuarial value of assets, and will top out at 22.47%. Under the Board's policy, rates would then remain fixed at this level until the fund was 110% funded in 2033. Because of investment gains, the point at which the plan becomes 100% funded is accelerated by eight years (2029 under Scenario 5 vs. 2037 under Scenario 1).

**Freezing the Contribution Rates**

Next we looked at what would happen if the State chose to permanently freeze its contribution at the level in effect for FY 2010 (13.25%). This result, assuming a constant 7.75% investment return in 2009 and later years, is shown on Exhibit 6. As you can see, the UAAL continues to grow throughout the projection, and by then end of 2048, the assets of the trust fund are exhausted.

Exhibits 6a and 6b examine what would happen if, because of the recession and its impact on the State's revenue, the State froze the FY 2010 contribution rate (13.25%) for either 2 years (FY 2011 and FY 2012, Exhibit 6a) or five years (FY 2011 – 2015, Exhibit 6b). The longer the State defers action, adopting a wait-and-see attitude, the higher the required contributions will eventually become. Under Exhibit 6a, the State freezes the contribution for two years—FY 2011 and FY 2012—at the FY 2010 contribution rate (13.25%), and then in FY 2013, it begins contributing the full requirement. Because of the two-year freeze, the contribution rates will be higher. For example, the FY 2016 contribution rate would be projected to be 0.47% larger because of the delay (23.57% vs. 23.10% under Scenario 1). Further, the increase in FY 2013 would be from 13.25% to 18.37%, or over 5 percentage points! Exhibit 6b shows that freezing the contribution rate the FY 2010 for five years (FY 2011-FY 2015) and then reverting to the calculated rate in FY 2016 would increase the FY 2018 contribution rate by 1.65 percentage points (from 23.10% under Scenario 1 to 24.75% under Scenario 6b), and the increase in FY 2016 when the freeze ended would be almost 11 percentage points (13.25% to 24.20).

Exhibits 7 – 10 show the results if Utah permanently freezes the contribution rate at 13.25% while varying the investment return rates as before. Assets would be exhausted in 2035 assuming a constant 6.00% return, in 2041 assuming a constant 7.00% return, and in 2038 under the W-shaped recovery. Exhibit 10 shows that with a constant 8.50% return, the plan still has assets at the end of the projection period, but the shortfall in contributions results in a falling funded ratio, despite the asset gains being experienced.

**Freezing Participation**

We were also asked to explain what would happen if the current plan was closed to future members, with all future hires going into a new, less expensive, plan with a different structure. The structure of the new plan could be either a defined contribution plan, such as the State's 401(k) plan, or a new defined benefit plan, or a hybrid. For this analysis, though, we assumed the new vehicle for future hires would cost a total of 8.00% of payroll for the future hires.

Exhibit 11 shows projections of the number of members and the payroll for the two groups: (a) current members remaining in the current defined benefit plan and (b) future hires going to the new plan. For this purpose, we assumed the new plan would become effective for employees hired on or after January 1, 2011. The projection assumes the total number of active members remains unchanged. As you can see, initially, most employees will be members of the current plan, but by 2019, we project that more than half of the employees would be in the new plan. In 25 years, only about 10% of the employees would still be covered in the closed defined benefit plan.

Exhibit 12a shows what would happen to the contributions in the closed plan and the new plan. This assumes that the closed plan would continue to receive the contributions as determined by the Board, and that the plan would earn 7.75% each year. Exhibit 12b shows the projected actuarial information for this scenario.

There are two points that should be noted about this scenario. First, one component of the actuarially determined contribution rate for the closed defined benefit plan has been changed. Once the plan is closed to future members, GASB Statement No. 25 will no longer permit the amortization of the unfunded liability to be determined as a level percentage of increasing payroll, because payroll for the closed group of members will eventually decline and then disappear. Therefore, we have assumed that at that point, the calculation of the contribution rate for the closed defined benefit plan would determine the amortization component of the contribution rate by using a level dollar amortization. This is initially more costly, so the contribution rate would increase. We also assumed the Board would close the amortization period (not allowing the amortization period to be recalculated once it reaches 20 years), since it makes little sense to use an open amortization period for a closed plan.

Second, as you can see, the contribution rate for the closed defined benefit plan increases dramatically in years after FY 2014, ultimately reaching more than 100% of payroll for the remaining participants. This is due to the fact that funding of the UAAL is being spread over a payroll base that declines rapidly. However, it should be borne in mind that these very large contribution rates are only being charged on the small number of remaining members in the closed defined benefit plan.

Overall, the average rate being charged employers reaches 24.37% of combined payroll in FY 2015, but then declines steadily as the proportion of the employees in the new plan increases. In the early years after the freeze, employers may actually pay more. For example, in FY 2015, the combined average employer rate under Scenario 12a (column 7) is 24.37%, while under Scenario 1, the rate is 23.10%. By FY 2019, Scenario 12a is producing savings compared o Scenario 1, and by the end of the projection, the savings over Scenario 1 amounts to 3.72% of payroll each year, which is the difference between the normal cost for the current plan (11.72%) and the cost for new members (8.00%). The reason this option costs more in the early years is entirely due to the GASB 25 requirement that contribution rates be based on a level dollar amortization.

**First Variation in Which Future Hires Receive a Substantially Reduced Benefit**

Because of the negative consequences of creating a completely separate plan for future hires, we have also looked at a scenario under which future hires remain in the defined benefit plan, but with a substantially reduced benefit. The benefit for future hires could be all defined benefit, or it could be a combination plan in which they receive a small defined benefit plan and a defined contribution plan. Again we have assumed the cost for these benefits for future hires is 8.00% of payroll.

Exhibits 13a and 13b show the results under this scenario. The projections assume that the actuarially determined contribution would be contributed to the defined benefit plan, and that the plan would earn 7.75% each year. Therefore, for future hires, employers would pay (a) 8.00% to cover the cost of their benefits, plus (b) the actuarially-calculated charge to amortize the UAAL. For current members, costs would be similar to what they would have been under the baseline scenario: (a) the 11.72% normal cost, plus (b) the same actuarially-calculated amortization charge.

Note that in this scenario, URS would continue the current practice of computing the amortization of the UAAL as an increasing amount (level percentage of payroll), because all members continue in the defined benefit plan, albeit future hires would have a smaller benefit than current members.

Contributions for current members would increase over time just as under the baseline scenario, and would reach 23.09%. (The fact that this is one basis point less than the 23.10% contribution rate under Scenario 1 is just due to a rounding difference.) However, the employer contributions for future hires would be smaller than the contribution for current members, reflecting the difference between (a) the normal cost for the current defined benefit (11.72%) and (b) the cost for the future hire's benefits (8.00%). So in FY 2020, for example, the employer contributes 19.37% (the sum of the 8.00% required to fund the new member's benefits, plus the 11.37% amortization charge). Over time, the average combined contribution, reflecting the mix of current members and future hires, will at first increase, reaching 22.10% in FY 2016, and then begin a long, slow decrease to 19.48% in 2041, at which point the funded ratio reaches 110%, and the amortization contribution is no longer needed.

**Second Variation in Which Future Hires Receive a Substantially Reduced Benefit**

Exhibits 14a and 14b look at another variation. Here, we assume the future hires go into a separate defined contribution plan costing 8.00% of payroll. However, in this case, employers would be required to contribute to the closed defined benefit plan an additional 8.00% of payroll. That is, the employer contribution for these future hires would be 16.00% of pay, with half being used to help defray the UAAL in the closed plan. This contribution rate would be fixed.

For the closed group of members in the current plan, employers would contribute the actuarially-determined contribution, but not less than the prior year's rate. The employer contribution rate for the defined benefit plan members would reflect the known 8.00% being contributed on behalf of the defined contribution membership. It would be based on a closed 25-year amortization period using a level-dollar approach, because the defined benefit plan would be closed.

Under this scenario, the average combined contributions are approximately the same as under Scenario 12, because the total contributions going into the closed defined benefit plan are the same, even though they are distributed differently between the members. For example, in column 9 on Exhibit 12a, the average contribution across both groups in FY 2025 is 19.95%, and it is 19.97% on Exhibit 14a. (The difference is due to rounding.)

**GASB ARC and Bonding**

Governmental Accounting Standards Board Statement No. 25 (GASB 25) requires that an Annual Required Contribution (ARC) be determined for each defined benefit plan. This is defined as the sum of (a) the employer's normal cost (the normal cost less member contributions), and (b) an amount to amortize the UAAL over a period of not more than 30 years. The amortization charge can be computed as a level amount that does not change from year to year—"level dollar"—or as an increasing amount that tracks expected increases in payroll—"level percent." If level percent amortization is used, then there are two requirements:

1. The expected increase in payroll may not reflect expected increases in the number of members; and

2. The plan must not be closed to new members. If participation is closed, the amortization methodology must be changed to level dollar, which requires larger contributions initially.

The actuarially calculated contribution rate for URS uses level-percent amortization.

There is no requirement that any employer actually contribute the ARC. However, the plan's Comprehensive Annual Financial Report is required to disclose the fact when actual contributions paid during a year are less than the ARC. URS employers have always paid at least the ARC in all years since GASB 25 became effective.

Some of the scenarios discussed above are ones in which, at least in some years, the employer would not have contributed the ARC. For example, under the scenarios shown in Exhibits 6-10, including 6a and 6b, the ARC is not paid in all years. Failure to pay the ARC would probably be looked on as a negative by the bond rating agencies. Scenario 6 would likely be viewed more negatively than Scenario 6a, since under Scenario 6, projections show the funded position deteriorating, while under Scenario 6a, the UAAL is eventually amortized.

We are not experts in how the rating agencies decide what rating to give to a State's bonds, but we know that the agencies do look at the health of the statewide pension systems. However, we also know that they look at the State's total debt and the costs of paying for the debt, combining pension liabilities and outstanding bonds, on a per capita basis or as a percentage of all taxable income. To the extent that Utah has low non-pension debt, the pension debt may not become a significant issue. Keep in mind in considering this point that unfunded pension liabilities increased for almost all states and municipalities because of the market meltdown, so URS's funded position will still be among the best.

**Ways to Handle the Required Contribution Increases**

Under the baseline scenario, contribution rates would increase from 13.25% for FY 2010 to 23.10% for FY 2016. This is an increase of 9.85% of payroll. We were asked to discuss some ways—not including tax increases—in which the State might handle this increase.

First, we think that some employer contribution rate increases will be required. We believe that economically, that will mean lower pay increases for active members in the future, as the employers step up to the higher increases. Of course employers might choose to reduce other benefits rather than take-home pay, or they might make do with fewer employees.

However, we do see some approaches that might knock down the 9.85% increase to a more manageable level. Among the tools at the legislature's disposal are these:

1. Eliminate the employer's 1.50% 401(k) contribution.

2. Reduce the benefit package for future hires. For example, the future-hire plan could be modeled along the lines of the Federal Employees Retirement System, which combines a 1.00% defined benefit plan with a thrift savings plan. Utah could have a 1% plan with an age 67 normal retirement age (same as Social Security) for around 5% of payroll (normal cost). This could be supplemented by a 3% defined contribution plan, possibly structured as a 50 cent employer contribution for each dollar contributed by members up to 6.00% of pay. This would ultimately bring the total of contributions required for the current plan members and the future hires down. For example, Exhibit 13a shows a combined average contribution rate in FY 2020 of 21.42%, which is lower than the Exhibit 1 scenario by 1.68% of total payroll (23.10% - 21.42%). As previously noted, savings would eventually increase to 3.72% per year.

3. Modest benefit reductions could be made to current members. For example, the retirement requirements could be phased from 30 years of service to 35 years of service, so that a member who already had 30 years of service would remain eligible for retirement, while a member with 24 but less than 30 years of service would be eligible to retire after 31 years of service, and a member with less than 6 years of service would be eligible to retire after 35 years of service. You could also modify the definition of final average compensation so that it is calculated as a five-year average rather than a three-year average. These changes should be able to generate a savings of at least 1% per year. We recognize that modifying benefits for current members presents the risk of a court challenge, but we are not attorneys and cannot speak to the likelihood that such a change would be overturned by the courts.

4. You could require members to contribute. The bulk of the membership is in one of the noncontributory systems, so this could generate significant savings. However, this is similar in effect to paying for increased employer contributions by giving lower salaries to members. On one hand, it makes the employees' financial support of the system more transparent, but it has the drawback that it increases benefits and liabilities, because non-vested members will be eligible for a refund of their own contributions.

As you can see, it might be reasonable to count on reducing total employer contributions by four or five percent of payroll from such measures, even if the plans are left noncontributory.

There is two other "weapons" that should be discussed, although they are not things the legislature has direct control over.

*Amortization Period:* In 2009, the URS Board set the amortization period at 25 years. This period is to decrease by one each year until it reaches 20 years, at which point the amortization period would be reset to 20 years. However, the maximum permissible amortization period under GASB 25 is 30 years, so contribution rates could be decreased further by going to a 30-year amortization period. We believe the Board did not want to do this now; they wanted to see first whether we would see a rapid and substantial economic recovery. Increasing the amortization period to 30 years starting at Jan. 1, 2009 would decrease the contribution rate in FY 2016 from 23.10% (under the baseline scenario) to 21.70%, for a savings in that year of 1.40%.

*Recovery of Markets*: Some observers believe that as the economy works its way out of the recession, we will see a significant market recovery. If this occurs, the increase in the employer contribution rates over the next five years will not need to be as large. However, other observers believe we have already experienced most of any recovery already.

**Assumptions and Data**

The projections are all based on the January 1, 2009 actuarial valuation, and they use member and financial data gathered for that valuation. The projections assume that there would be no actuarial gains or losses throughout the projection period, other than those due to asset returns. We assumed the number of active members would remain constant. That is, we assume that a cohort of new members joins the plan each year in the future, replacing the active members who terminated, died, or retired during the year. The cohorts of future hires resemble recent hires in terms of their age and sex distribution. Starting pay for each cohort is assumed to increase by 4% over the starting pay for the previous cohort.

Under UC § 49-11-301(5), the URS Board of Trustees has the authority to hold the contribution rate at the level for the prior year if the actuarially-calculated contribution rate is less than the prior year's rate and the funded ratio is under 110%. The Board has done this since this section was added to the Utah Code. For these projections we assumed the contribution would be set equal to the actuarially-calculated rate, but not less than the rate in effect in FY 2010. A minimum contribution equal to the normal cost was also applied once the fund reaches 110% funded.

For projections in which future hires continue to participate in the current plan, the amortization charge was assumed to be calculated each year under the Board's current policy, which is to use a

25-year period as of January 1, 2009 (for the FY 2011 contribution). For the next five valuations, the period is scheduled to decrease by 1 year each year, until it reaches 20 years in the January 1, 2014 valuation. From that point forward, the period remains at 20 years. However, the Board will not reduce the contribution rate until the funded ratio is 110% or greater. At that point, the contribution rate would be adjusted to the normal cost rate. For projections where the current plan is closed to new members, i.e., in Scenarios 12 and 14, we assumed the Board would modify this policy so that the amortization period decreases by 1 year each year until the UAAL is fully amortized.

J. Christian Conradi is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

Lewis Ward

Lewis Ward
Consultant

J. Christian Conradi

J. Christian Conradi
Senior Consultant

Enclosures

cc: Mr. Robert V. Newman, Executive Director, URS
Mr. Daniel D. Andersen, Counsel to URS
Mr. Benjamin N. Christensen, Policy Analyst

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Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 1 (Baseline)**

Contributions: Calculated under Current Methodology

Investment Returns: 7.75% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 15.39% | 499.0 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 16.23% | 541.6 | 16.23% | 2010 | 11,495.7 | 2,326.1 | 85.8% |
| FY 2013 | 18.24% | 626.7 | 18.24% | 2011 | 12,168.3 | 3,366.0 | 80.6% |
| FY 2014 | 20.55% | 727.2 | 20.55% | 2012 | 12,853.3 | 4,563.3 | 75.1% |
| FY 2015 | 22.75% | 829.6 | 22.75% | 2013 | 13,584.7 | 5,687.2 | 70.5% |
| FY 2020 | 23.10% | 987.7 | 21.97% | 2018 | 18,238.1 | 5,969.7 | 75.3% |
| FY 2025 | 23.10% | 1,178.0 | 19.94% | 2023 | 23,638.5 | 5,679.9 | 80.6% |
| FY 2030 | 23.10% | 1,419.4 | 17.35% | 2028 | 30,118.3 | 4,679.7 | 86.6% |
| FY 2035 | 23.10% | 1,717.7 | 14.20% | 2033 | 38,514.4 | 2,494.3 | 93.9% |
| FY 2040 | 23.10% | 2,080.5 | 10.42% | 2038 | 50,007.0 | (1,584.2) | 103.3% |
| FY 2045 | 11.72% | 1,281.4 | 5.89% | 2043 | 66,021.7 | (8,609.2) | 115.0% |
| FY 2050 | 11.72% | 1,558.1 | 4.29% | 2048 | 81,732.4 | (13,325.5) | 119.5% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 2**

Contributions: Calculated under Current Methodology

Investment Returns: 6.0% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 15.39% | 499.0 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 16.30% | 543.9 | 16.30% | 2010 | 11,306.8 | 2,363.9 | 85.6% |
| FY 2013 | 18.49% | 635.3 | 18.49% | 2011 | 11,768.8 | 3,495.4 | 79.9% |
| FY 2014 | 21.09% | 746.3 | 21.09% | 2012 | 12,220.1 | 4,840.2 | 73.6% |
| FY 2015 | 23.68% | 863.5 | 23.68% | 2013 | 12,696.5 | 6,167.6 | 68.0% |
| FY 2020 | 25.30% | 1,081.8 | 25.30% | 2018 | 15,799.5 | 7,904.8 | 67.3% |
| FY 2025 | 25.81% | 1,316.2 | 25.81% | 2023 | 18,969.3 | 9,736.5 | 66.8% |
| FY 2030 | 26.06% | 1,601.3 | 26.06% | 2028 | 22,164.1 | 11,913.8 | 65.8% |
| FY 2035 | 26.12% | 1,942.2 | 26.11% | 2033 | 25,721.9 | 14,450.5 | 64.8% |
| FY 2040 | 26.12% | 2,352.5 | 26.01% | 2038 | 30,062.6 | 17,385.6 | 64.1% |
| FY 2045 | 26.12% | 2,855.9 | 25.79% | 2043 | 35,503.3 | 20,761.8 | 63.8% |
| FY 2050 | 26.12% | 3,472.6 | 25.43% | 2048 | 42,446.2 | 24,593.8 | 64.0% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 3**

Contributions: Calculated under Current Methodology

Investment Returns: 7.0% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 15.39% | 499.0 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 16.26% | 542.6 | 16.26% | 2010 | 11,414.8 | 2,342.3 | 85.7% |
| FY 2013 | 18.34% | 630.1 | 18.34% | 2011 | 11,996.3 | 3,421.6 | 80.3% |
| FY 2014 | 20.79% | 735.7 | 20.79% | 2012 | 12,579.4 | 4,682.7 | 74.4% |
| FY 2015 | 23.15% | 844.2 | 23.15% | 2013 | 13,198.5 | 5,895.2 | 69.4% |
| FY 2020 | 23.76% | 1,015.9 | 23.46% | 2018 | 17,144.4 | 6,833.1 | 71.8% |
| FY 2025 | 23.76% | 1,211.7 | 22.74% | 2023 | 21,413.9 | 7,613.0 | 74.0% |
| FY 2030 | 23.76% | 1,460.0 | 21.76% | 2028 | 26,097.4 | 8,343.4 | 76.0% |
| FY 2035 | 23.76% | 1,766.7 | 20.55% | 2033 | 31,712.6 | 8,862.3 | 78.4% |
| FY 2040 | 23.76% | 2,139.9 | 19.07% | 2038 | 38,951.3 | 8,940.8 | 81.5% |
| FY 2045 | 23.76% | 2,597.9 | 17.31% | 2043 | 48,501.8 | 8,252.5 | 85.6% |
| FY 2050 | 23.76% | 3,158.8 | 15.23% | 2048 | 61,275.4 | 6,303.4 | 90.8% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 4**

Contributions: Calculated under Current Methodology

Investment Returns: 15% in 2009, -20% in 2010, 15% in 2011 and 7.75% each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 15.39% | 499.0 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 15.93% | 531.5 | 15.93% | 2010 | 12,278.4 | 2,169.6 | 86.8% |
| FY 2013 | 22.02% | 756.5 | 22.02% | 2011 | 9,633.5 | 5,321.6 | 69.4% |
| FY 2014 | 22.27% | 788.1 | 22.27% | 2012 | 10,806.1 | 5,448.0 | 70.2% |
| FY 2015 | 25.39% | 925.8 | 25.39% | 2013 | 11,440.1 | 7,050.6 | 63.4% |
| FY 2020 | 27.53% | 1,177.1 | 26.08% | 2018 | 15,848.4 | 8,359.5 | 65.5% |
| FY 2025 | 27.53% | 1,403.9 | 23.28% | 2023 | 21,331.8 | 7,986.7 | 72.8% |
| FY 2030 | 27.53% | 1,691.6 | 19.71% | 2028 | 28,157.6 | 6,640.3 | 80.9% |
| FY 2035 | 27.53% | 2,047.1 | 15.37% | 2033 | 37,341.6 | 3,667.1 | 91.1% |
| FY 2040 | 27.53% | 2,479.5 | 10.15% | 2038 | 50,330.6 | (1,907.8) | 103.9% |
| FY 2045 | 11.72% | 1,281.4 | 4.45% | 2043 | 68,132.9 | (10,720.4) | 118.7% |
| FY 2050 | 11.72% | 1,558.1 | 3.04% | 2048 | 83,977.3 | (15,570.3) | 122.8% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 5**

Contributions: Calculated under Current Methodology

Investment Returns: 8.5% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 15.39% | 499.0 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 16.20% | 540.5 | 16.20% | 2010 | 11,576.7 | 2,309.9 | 85.9% |
| FY 2013 | 18.13% | 622.9 | 18.13% | 2011 | 12,341.6 | 3,310.1 | 80.9% |
| FY 2014 | 20.32% | 719.1 | 20.32% | 2012 | 13,131.1 | 4,442.8 | 75.7% |
| FY 2015 | 22.34% | 814.6 | 22.34% | 2013 | 13,979.1 | 5,476.4 | 71.6% |
| FY 2020 | 22.47% | 960.8 | 20.41% | 2018 | 19,400.7 | 5,061.2 | 79.1% |
| FY 2025 | 22.47% | 1,145.9 | 16.87% | 2023 | 26,103.8 | 3,559.6 | 87.9% |
| FY 2030 | 22.47% | 1,380.7 | 12.32% | 2028 | 34,759.9 | 497.8 | 98.6% |
| FY 2035 | 11.72% | 871.5 | 6.67% | 2033 | 46,699.5 | (5,075.3) | 112.4% |
| FY 2040 | 11.72% | 1,055.6 | 2.47% | 2038 | 60,489.9 | (11,256.3) | 123.2% |
| FY 2045 | 11.72% | 1,281.4 | 0.00% | 2043 | 77,802.6 | (19,351.7) | 133.7% |
| FY 2050 | 11.72% | 1,558.1 | 0.00% | 2048 | 101,735.2 | (31,976.8) | 146.7% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 6**

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 7.75% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 13.25% | 429.6 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 13.25% | 442.1 | 16.23% | 2010 | 11,495.7 | 2,326.1 | 85.8% |
| FY 2013 | 13.25% | 455.2 | 18.37% | 2011 | 12,097.2 | 3,437.1 | 80.2% |
| FY 2014 | 13.25% | 468.9 | 20.87% | 2012 | 12,689.1 | 4,727.4 | 74.2% |
| FY 2015 | 13.25% | 483.2 | 23.36% | 2013 | 13,267.7 | 6,004.2 | 68.8% |
| FY 2020 | 13.25% | 566.5 | 26.11% | 2018 | 15,829.8 | 8,378.1 | 65.4% |
| FY 2025 | 13.25% | 675.7 | 28.75% | 2023 | 17,552.2 | 11,766.3 | 59.9% |
| FY 2030 | 13.25% | 814.2 | 31.71% | 2028 | 18,188.5 | 16,609.4 | 52.3% |
| FY 2035 | 13.25% | 985.2 | 35.17% | 2033 | 17,463.6 | 23,545.1 | 42.6% |
| FY 2040 | 13.25% | 1,193.4 | 39.26% | 2038 | 14,926.0 | 33,496.8 | 30.8% |
| FY 2045 | 13.25% | 1,448.7 | 44.12% | 2043 | 9,609.8 | 47,802.7 | 16.7% |
| FY 2050 | 13.25% | 1,761.5 | 49.86% | 2048 | 8.1 | 68,398.9 | 0.0% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 6a**

Contributions: Calculated under Current Methodology - FY 2011 & FY 2012 Contributions Frozen at FY 2010
Investment Returns: 7.75% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 13.25% | 429.4 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 13.25% | 442.0 | 16.23% | 2010 | 11,495.7 | 2,326.1 | 85.8% |
| FY 2013 | 18.37% | 631.1 | 18.37% | 2011 | 12,097.1 | 3,437.2 | 80.2% |
| FY 2014 | 20.87% | 738.5 | 20.87% | 2012 | 12,689.0 | 4,727.6 | 74.2% |
| FY 2015 | 23.19% | 845.6 | 23.19% | 2013 | 13,357.5 | 5,914.4 | 69.3% |
| FY 2020 | 23.57% | 1,007.8 | 22.39% | 2018 | 17,996.5 | 6,211.4 | 74.3% |
| FY 2025 | 23.57% | 1,202.0 | 20.27% | 2023 | 23,411.0 | 5,907.4 | 79.9% |
| FY 2030 | 23.57% | 1,448.3 | 17.57% | 2028 | 29,935.3 | 4,862.7 | 86.0% |
| FY 2035 | 23.57% | 1,752.6 | 14.29% | 2033 | 38,426.3 | 2,582.4 | 93.7% |
| FY 2040 | 23.57% | 2,122.8 | 10.35% | 2038 | 50,094.1 | (1,671.3) | 103.5% |
| FY 2045 | 11.72% | 1,281.4 | 6.04% | 2043 | 65,798.3 | (8,385.7) | 114.6% |
| FY 2050 | 11.72% | 1,558.1 | 4.93% | 2048 | 80,586.4 | (12,179.4) | 117.8% |

## Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 6b**

Contributions: Calculated under Current Methodology - FY 2011 - 2015 Contributions Frozen at FY 2010 Rat
Investment Returns: 7.75% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 13.25% | 429.4 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 13.25% | 442.0 | 16.23% | 2010 | 11,495.7 | 2,326.1 | 85.8% |
| FY 2013 | 13.25% | 455.1 | 18.37% | 2011 | 12,097.1 | 3,437.2 | 80.2% |
| FY 2014 | 13.25% | 468.7 | 20.87% | 2012 | 12,689.0 | 4,727.6 | 74.2% |
| FY 2015 | 13.25% | 483.0 | 23.36% | 2013 | 13,267.4 | 6,004.5 | 68.8% |
| FY 2020 | 24.75% | 1,058.3 | 24.07% | 2018 | 17,019.8 | 7,188.1 | 70.3% |
| FY 2025 | 24.75% | 1,262.1 | 21.88% | 2023 | 22,302.6 | 7,015.9 | 76.1% |
| FY 2030 | 24.75% | 1,520.8 | 19.07% | 2028 | 28,695.5 | 6,102.4 | 82.5% |
| FY 2035 | 24.75% | 1,840.4 | 15.64% | 2033 | 37,071.8 | 3,936.9 | 90.4% |
| FY 2040 | 24.75% | 2,229.1 | 11.52% | 2038 | 48,666.8 | (243.9) | 100.5% |
| FY 2045 | 11.72% | 1,281.4 | 6.58% | 2043 | 64,989.8 | (7,577.3) | 113.2% |
| FY 2050 | 11.72% | 1,558.1 | 5.06% | 2048 | 80,352.8 | (11,945.8) | 117.5% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 7**

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 6.0% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 13.25% | 429.6 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 13.25% | 442.1 | 16.30% | 2010 | 11,306.8 | 2,363.9 | 85.6% |
| FY 2013 | 13.25% | 455.2 | 18.62% | 2011 | 11,698.2 | 3,566.4 | 79.5% |
| FY 2014 | 13.25% | 468.9 | 21.41% | 2012 | 12,057.4 | 5,004.9 | 72.7% |
| FY 2015 | 13.25% | 483.2 | 24.30% | 2013 | 12,379.4 | 6,489.3 | 66.3% |
| FY 2020 | 13.25% | 566.5 | 29.76% | 2018 | 13,260.1 | 10,502.4 | 56.6% |
| FY 2025 | 13.25% | 675.7 | 35.39% | 2023 | 12,524.6 | 16,355.7 | 44.2% |
| FY 2030 | 13.25% | 814.2 | 41.42% | 2028 | 9,755.7 | 24,676.4 | 29.1% |
| FY 2035 | 13.25% | 985.2 | 47.89% | 2033 | 4,472.4 | 36,322.8 | 11.4% |
| FY 2040 | 13.25% | 1,193.4 | 54.01% | 2038 | - | 51,437.4 | 0.0% |
| FY 2045 | 13.25% | 1,448.7 | 59.25% | 2043 | - | 70,122.1 | 0.0% |
| FY 2050 | 13.25% | 1,761.5 | 64.94% | 2048 | - | 95,442.8 | 0.0% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 8**

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 7.0% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 13.25% | 429.6 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 13.25% | 442.1 | 16.26% | 2010 | 11,414.8 | 2,342.3 | 85.7% |
| FY 2013 | 13.25% | 455.2 | 18.48% | 2011 | 11,925.4 | 3,492.7 | 79.9% |
| FY 2014 | 13.25% | 468.9 | 21.10% | 2012 | 12,415.8 | 4,847.1 | 73.5% |
| FY 2015 | 13.25% | 483.2 | 23.77% | 2013 | 12,881.6 | 6,214.1 | 67.8% |
| FY 2020 | 13.25% | 566.5 | 27.72% | 2018 | 14,684.8 | 9,316.9 | 61.5% |
| FY 2025 | 13.25% | 675.7 | 31.76% | 2023 | 15,251.9 | 13,846.3 | 52.8% |
| FY 2030 | 13.25% | 814.2 | 36.24% | 2028 | 14,217.1 | 20,368.3 | 41.5% |
| FY 2035 | 13.25% | 985.2 | 41.28% | 2033 | 11,147.3 | 29,683.7 | 27.6% |
| FY 2040 | 13.25% | 1,193.4 | 47.02% | 2038 | 5,384.6 | 42,931.4 | 11.3% |
| FY 2045 | 13.25% | 1,448.7 | 52.82% | 2043 | - | 60,636.9 | 0.0% |
| FY 2050 | 13.25% | 1,761.5 | 58.11% | 2048 | - | 83,202.9 | 0.0% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 9**

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 15% in 2009, -20% in 2010, 15% in 2011 and 7.75% each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 13.25% | 429.6 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 13.25% | 442.1 | 15.93% | 2010 | 12,278.4 | 2,169.6 | 86.8% |
| FY 2013 | 13.25% | 455.2 | 22.17% | 2011 | 9,571.9 | 5,398.7 | 68.9% |
| FY 2014 | 13.25% | 468.9 | 22.57% | 2012 | 10,650.0 | 5,604.0 | 69.4% |
| FY 2015 | 13.25% | 483.2 | 26.11% | 2013 | 11,070.5 | 7,419.6 | 61.5% |
| FY 2020 | 13.25% | 566.5 | 31.59% | 2018 | 12,638.6 | 11,569.3 | 52.2% |
| FY 2025 | 13.25% | 675.7 | 35.46% | 2023 | 12,917.3 | 16,401.1 | 44.1% |
| FY 2030 | 13.25% | 814.2 | 39.82% | 2028 | 11,456.9 | 23,341.1 | 32.9% |
| FY 2035 | 13.25% | 985.2 | 44.90% | 2033 | 7,686.5 | 33,322.1 | 18.7% |
| FY 2040 | 13.25% | 1,193.4 | 50.94% | 2038 | 725.8 | 47,697.0 | 1.5% |
| FY 2045 | 13.25% | 1,448.7 | 56.23% | 2043 | - | 65,673.4 | 0.0% |
| FY 2050 | 13.25% | 1,761.5 | 62.39% | 2048 | - | 90,867.0 | 0.0% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 10**

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 8.5% in 2009 and each year thereafter

| Contributions by Fiscal Year Ending June 30 | | | | Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | GASB ARC | Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FY 2010 | 13.25% | 417.8 | 13.25% | 2008 | 14,467.3 | 511.2 | 96.5% |
| FY 2011 | 13.25% | 429.6 | 15.39% | 2009 | 10,930.1 | 1,893.0 | 87.8% |
| FY 2012 | 13.25% | 442.1 | 16.20% | 2010 | 11,576.7 | 2,309.9 | 85.9% |
| FY 2013 | 13.25% | 455.2 | 18.27% | 2011 | 12,270.2 | 3,381.3 | 80.5% |
| FY 2014 | 13.25% | 468.9 | 20.64% | 2012 | 12,966.3 | 4,606.7 | 74.8% |
| FY 2015 | 13.25% | 483.2 | 22.95% | 2013 | 13,662.2 | 5,791.3 | 69.9% |
| FY 2020 | 13.25% | 566.5 | 24.42% | 2018 | 17,044.0 | 7,394.8 | 69.5% |
| FY 2025 | 13.25% | 675.7 | 25.47% | 2023 | 20,093.0 | 9,501.9 | 67.6% |
| FY 2030 | 13.25% | 814.2 | 26.57% | 2028 | 22,776.8 | 12,337.7 | 64.5% |
| FY 2035 | 13.25% | 985.2 | 27.88% | 2033 | 25,131.7 | 16,228.8 | 60.4% |
| FY 2040 | 13.25% | 1,193.4 | 29.52% | 2038 | 27,160.0 | 21,645.3 | 55.3% |
| FY 2045 | 13.25% | 1,448.7 | 31.56% | 2043 | 28,549.5 | 29,268.8 | 49.0% |
| FY 2050 | 13.25% | 1,761.5 | 34.08% | 2048 | 28,724.0 | 40,097.4 | 41.4% |

Utah Retirement System -

State & School Divisions, Contributory & Noncontributory Combined

Projection of Membership and Payroll, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 11**

Projections as of January 1 of years shown

| | Number of Active Members | | | Covered Payroll ($ Millions) | | |
|---|---|---|---|---|---|---|
| Year | Closed DB Plan | New Plan for Future Hires | Total | Closed DB Plan | New Plan for Future Hires | Total |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 2008 | 73,190 | - | 73,190 | 2,912.53 | - | 2,912.53 |
| 2009 | 74,903 | - | 74,903 | 3,112.99 | - | 3,112.99 |
| 2010 | 74,903 | - | 74,903 | 3,195.94 | - | 3,195.94 |
| 2011 | 74,903 | - | 74,903 | 3,288.29 | - | 3,288.29 |
| 2012 | 66,873 | 8,030 | 74,903 | 3,138.95 | 246.21 | 3,385.15 |
| 2013 | 60,517 | 14,386 | 74,903 | 3,014.87 | 471.35 | 3,486.23 |
| 2018 | 39,214 | 35,689 | 74,903 | 2,509.70 | 1,558.77 | 4,068.47 |
| 2023 | 24,982 | 49,921 | 74,903 | 2,004.12 | 2,824.15 | 4,828.27 |
| 2028 | 15,235 | 59,668 | 74,903 | 1,517.23 | 4,288.94 | 5,806.18 |
| 2033 | 8,377 | 66,526 | 74,903 | 1,028.74 | 5,989.49 | 7,018.23 |
| 2038 | 3,581 | 71,322 | 74,903 | 535.29 | 7,965.19 | 8,500.49 |
| 2043 | 672 | 74,231 | 74,903 | 116.51 | 10,195.10 | 10,311.61 |
| 2048 | 66 | 74,837 | 74,903 | 12.48 | 12,521.11 | 12,533.59 |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 12a (Freeze Participation)**

Contributions: Calculated under Closed Amortization Period and Level Dollar Payment

Investment Returns: 7.75% in 2009 and each year thereafter

| | Current DB Plan, Closed | | New Plan for Future Hires | | Total | |
|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution ($ Millions) | Average Contribution Rate |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| FY 2010 | 13.25% | 417.82 | NA | - | 417.82 | 13.25% |
| FY 2011 | 15.39% | 498.96 | NA | - | 498.96 | 15.39% |
| FY 2012 | 18.26% | 586.81 | 8.00% | 9.85 | 596.65 | 17.88% |
| FY 2013 | 20.90% | 643.22 | 8.00% | 28.70 | 671.92 | 19.56% |
| FY 2014 | 24.82% | 734.60 | 8.00% | 46.33 | 780.93 | 22.07% |
| FY 2015 | 28.92% | 825.11 | 8.00% | 63.45 | 888.55 | 24.37% |
| FY 2020 | 33.97% | 801.14 | 8.00% | 153.41 | 954.55 | 22.32% |
| FY 2025 | 40.82% | 757.96 | 8.00% | 259.41 | 1,017.37 | 19.95% |
| FY 2030 | 53.33% | 730.90 | 8.00% | 381.93 | 1,112.83 | 18.11% |
| FY 2035 | 103.75% | 919.78 | 8.00% | 523.94 | 1,443.72 | 19.42% |
| FY 2040 | 11.72% | 45.12 | 8.00% | 689.72 | 734.84 | 8.16% |
| FY 2045 | 11.72% | 7.62 | 8.00% | 869.50 | 877.12 | 8.02% |
| FY 2050 | 11.72% | 0.71 | 8.00% | 1,063.09 | 1,063.80 | 8.00% |

Utah Retirement System -
State & School Divisions, Contributory & Noncontributory

Projection of Key Actuarial Results,
Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 12b (Freeze Participation)**
Contributions: Calculated under Current Methodology
Investment Returns: 7.75% in 2009 and each year thereafter

| Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|
| Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) |
| 2008 | 14,467.30 | 511.22 | 96.5% |
| 2009 | 10,930.11 | 1,892.96 | 87.8% |
| 2010 | 11,495.75 | 2,326.08 | 85.8% |
| 2011 | 12,225.32 | 3,308.98 | 80.9% |
| 2012 | 12,978.66 | 4,429.15 | 75.8% |
| 2013 | 13,745.06 | 5,480.24 | 71.5% |
| 2018 | 18,290.08 | 5,199.37 | 77.9% |
| 2023 | 22,470.10 | 4,361.64 | 83.7% |
| 2028 | 25,874.46 | 3,043.81 | 89.5% |
| 2033 | 28,587.47 | 909.45 | 96.9% |
| 2038 | 29,746.17 | (1,344.97) | 104.7% |
| 2043 | 27,416.08 | (1,953.44) | 107.7% |
| 2048 | 24,382.59 | (2,837.18) | 113.2% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 13a (Reduced Benefit for New Hires)**

Contributions: Calculated under Current Methodology

Investment Returns: 7.75% in 2009 and each year thereafter

| | Current DB Plan, Closed | | Amortization Payment - Future Hires | | New Plan for Future Hires | | Total | |
|---|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution ($ Millions) | Average Contribution Rate |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| FY 2010 | 13.25% | 417.82 | NA | - | NA | - | 417.82 | 13.25% |
| FY 2011 | 15.39% | 498.96 | NA | - | NA | - | 498.96 | 15.39% |
| FY 2012 | 16.23% | 521.57 | 4.51% | 5.55 | 8.00% | 9.85 | 536.97 | 16.09% |
| FY 2013 | 18.24% | 561.23 | 6.52% | 23.39 | 8.00% | 28.70 | 613.32 | 17.85% |
| FY 2014 | 20.54% | 607.90 | 8.82% | 51.08 | 8.00% | 46.33 | 705.31 | 19.93% |
| FY 2015 | 22.73% | 648.56 | 11.01% | 87.32 | 8.00% | 63.45 | 799.34 | 21.92% |
| FY 2020 | 23.09% | 544.50 | 11.37% | 218.03 | 8.00% | 153.41 | 915.94 | 21.42% |
| FY 2025 | 23.09% | 428.78 | 11.37% | 368.68 | 8.00% | 259.41 | 1,056.87 | 20.72% |
| FY 2030 | 23.09% | 316.45 | 11.37% | 542.82 | 8.00% | 381.93 | 1,241.20 | 20.20% |
| FY 2035 | 23.09% | 204.70 | 11.37% | 744.65 | 8.00% | 523.94 | 1,473.30 | 19.81% |
| FY 2040 | 23.09% | 88.90 | 11.37% | 980.26 | 8.00% | 689.72 | 1,758.87 | 19.53% |
| FY 2045 | 11.72% | 7.62 | 0.00% | - | 8.00% | 869.50 | 877.12 | 8.02% |
| FY 2050 | 11.72% | 0.71 | 0.00% | - | 8.00% | 1,063.09 | 1,063.80 | 8.00% |

Utah Retirement System -
State & School Divisions, Contributory & Noncontributory

Projection of Key Actuarial Results,
Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 13b (Reduced Benefit for New Hires)**
Contributions: Calculated under Current Methodology
Investment Returns: 7.75% in 2009 and each year thereafter

| Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|
| Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) |
| 2008 | 14,467.30 | 511.22 | 96.5% |
| 2009 | 10,930.11 | 1,892.96 | 87.8% |
| 2010 | 11,495.75 | 2,326.08 | 85.8% |
| 2011 | 12,168.34 | 3,365.97 | 80.6% |
| 2012 | 12,853.28 | 4,554.54 | 75.1% |
| 2013 | 13,547.53 | 5,677.78 | 70.5% |
| 2018 | 17,530.94 | 5,958.51 | 74.6% |
| 2023 | 21,165.44 | 5,666.30 | 78.9% |
| 2028 | 24,255.25 | 4,663.02 | 83.9% |
| 2033 | 27,023.05 | 2,473.88 | 91.6% |
| 2038 | 30,010.45 | (1,609.24) | 105.7% |
| 2043 | 32,324.12 | (6,861.48) | 126.9% |
| 2048 | 31,511.03 | (9,965.62) | 146.3% |

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 14a (Reduced Benefit for New Hires)**

Contributions: Calculated under Closed Amortization Period and Level Dollar Payment

Investment Returns: 7.75% in 2009 and each year thereafter

| | Current DB Plan, Closed | | 8% Amortization Payment - Future Hires | | New Plan for Future Hires | | Total | |
|---|---|---|---|---|---|---|---|---|
| Fiscal Year | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution Rate | Employer Contribution ($ Millions) | Employer Contribution ($ Millions) | Average Contribution Rate |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| FY 2010 | 13.25% | 417.82 | NA | - | NA | - | 417.82 | 13.25% |
| FY 2011 | 15.39% | 498.96 | NA | - | NA | - | 498.96 | 15.39% |
| FY 2012 | 17.95% | 576.96 | 8.00% | 9.85 | 8.00% | 9.85 | 596.65 | 17.88% |
| FY 2013 | 19.97% | 614.52 | 8.00% | 28.70 | 8.00% | 28.70 | 671.92 | 19.56% |
| FY 2014 | 23.27% | 688.73 | 8.00% | 46.33 | 8.00% | 46.33 | 781.39 | 22.08% |
| FY 2015 | 26.71% | 762.14 | 8.00% | 63.45 | 8.00% | 63.45 | 889.04 | 24.38% |
| FY 2020 | 27.49% | 648.35 | 8.00% | 153.41 | 8.00% | 153.41 | 955.17 | 22.34% |
| FY 2025 | 26.90% | 499.52 | 8.00% | 259.41 | 8.00% | 259.41 | 1,018.34 | 19.97% |
| FY 2030 | 25.59% | 350.68 | 8.00% | 381.93 | 8.00% | 381.93 | 1,114.54 | 18.14% |
| FY 2035 | 45.53% | 403.61 | 8.00% | 523.94 | 8.00% | 523.94 | 1,451.50 | 19.52% |
| FY 2040 | 11.72% | 45.12 | 0.00% | - | 8.00% | 689.72 | 734.84 | 8.16% |
| FY 2045 | 11.72% | 7.62 | 0.00% | - | 8.00% | 869.50 | 877.12 | 8.02% |
| FY 2050 | 11.72% | 0.71 | 0.00% | - | 8.00% | 1,063.09 | 1,063.80 | 8.00% |

Utah Retirement System -
State & School Divisions, Contributory & Noncontributory

Projection of Key Actuarial Results,
Based on Jan. 1, 2009 Actuarial Valuation

**Exhibit 14b (Reduced Benefit for New Hires)**
Contributions: Calculated under Current Methodology
Investment Returns: 7.75% in 2009 and each year thereafter

| Actuarial Information at January 1 Valuation Date | | | |
|---|---|---|---|
| Year | Market Value of Assets ($ Millions) | Unfunded Actuarial Accrued Liability ($ Millions) | Funded Ratio |
| (1) | (2) | (3) | (4) |
| 2008 | 14,467.30 | 511.22 | 96.5% |
| 2009 | 10,930.11 | 1,892.96 | 87.8% |
| 2010 | 11,495.75 | 2,326.08 | 85.8% |
| 2011 | 12,225.32 | 3,308.98 | 80.9% |
| 2012 | 12,973.43 | 4,434.39 | 75.8% |
| 2013 | 13,739.68 | 5,485.63 | 71.5% |
| 2018 | 18,283.94 | 5,205.51 | 77.8% |
| 2023 | 22,462.32 | 4,369.42 | 83.7% |
| 2028 | 25,865.31 | 3,052.96 | 89.4% |
| 2033 | 28,578.81 | 918.12 | 96.9% |
| 2038 | 29,778.68 | (1,377.48) | 104.9% |
| 2043 | 27,463.28 | (2,000.65) | 107.9% |
| 2048 | 24,451.16 | (2,905.74) | 113.5% |

ATTACHMENT 2

# Agreement for Consultation Services:

### Audit of Long-Term Actuarial Projections Relating to the State Retirement System

### 2010-01

## 1. DEFINITIONS

As used in this AGREEMENT:

**1.1** "AGREEMENT" means this "Agreement for Consultation Services: Audit of Long-Term Actuarial Projections Relating to the State Retirement System 2010-01" between the LEGISLATURE and (consultant).

**1.2** "(Consultant)" means (consultant), an independent contractor.

**1.3** "GRS" means Gabriel Roeder Smith & Company, the actuary for URS.

**1.4** "LEGISLATURE" means the Utah State Legislature.

**1.5** "LFA" means the Office of Legislative Fiscal Analyst, a staff office of the LEGISLATURE.

**1.6** "PROJECTION REPORT" means the "long-term projections of key actuarial results under various scenarios" made by GRS, attached to the RFP as "Attachment 1."

**1.7** "RETIREMENT SUBCOMMITTEE" means the Retirement and Independent Entities Appropriation Subcommittee of the Utah State Legislature.

**1.8** "RFP" means the Request for Proposals to the Utah State Legislature, issued by the RETIREMENT SUBCOMMITTEE, for "Audit of Long-Term Actuarial Projections Relating to the State Retirement System 2010-01", and all addenda thereto.

**1.9** "STAFF OFFICE" means the LFA, the Office of Legislative Research and General Counsel, the Office of Legislative Auditor General, Legislative Printing, the staff office of the Utah State House of Representatives, and the staff office of the Utah State Senate.

**1.10** "URS" means the Utah Retirement Systems.

## 2. PARTIES

This AGREEMENT is between the LEGISLATURE and (consultant).

## 3. DUTIES OF (consultant)

In exchange for the consideration described Section 5 of this AGREEMENT, (consultant) shall:

**3.1** Quickly gain an in-depth understanding of the current management, operation, and function of URS and the retirement plans discussed in the PROJECTION REPORT.

**3.2** Separately analyze the projections made for each scenario discussed in the PROJECTION REPORT, and all projections, assumptions and calculations made, all data used, and all results reached, for each projection.

**3.3** Adjust each projection included in the PROJECTION REPORT to correct for any errors discovered in the PROJECTION REPORT and any points of disagreement with the projections, assumptions and calculations made, the data used, and the results reached in the PROJECTION REPORT.

**3.4** Complete a comprehensive, detailed audit of the PROJECTION REPORT, including all projections, assumptions and calculations made, all data used, and all results reached in the PROJECTION REPORT.

**3.5** Provide the RETIREMENT SUBCOMMITTEE with a detailed written report of the audit, including:

**3.5.1** Any errors discovered in the PROJECTION REPORT and any points of disagreement with the projections, assumptions and calculations made, the data used, and the results reached in the PROJECTION REPORT.

**3.5.2** A detailed description and analysis of the errors and points of disagreement described in Section 3.5.a.

**3.6** Include in the person's or entity's report to the RETIREMENT SUBCOMMITTEE a detailed written description of the analysis and adjustments described in this Section 3, including the reasons for the adjustments.

**3.7** Submit 20 copies and one electronic copy of the detailed written report described in this Section 3 to LFA on or before September 1, 2010 at 9:00 a.m.

**3.8** On or before September 23, 2010 at 9:00 a.m., make an oral presentation, and answer questions, to the RETIREMENT SUBCOMMITTEE regarding the detailed written report described in this Section 3.

## 4. REPRESENTATIONS

(Consultant) represents that (consultant):

**4.1** Has sufficient knowledge and expertise to enable (consultant) to fulfill the duties described in Section 3.

**4.2** Has the knowledge and expertise that will enable the (consultant) to conduct the audit and make the report described in Section 3.

**4.3** Has the ability to understand, analyze, and organize a large amount of information in a short time.

**4.4** Has the ability to determine and understand the current management, operation, and function of URS and the retirement plans discussed in the PROJECTION REPORT.

**4.5** Has the ability to fairly and accurately analyze and critique the projections and assumptions made in the PROJECTION REPORT.

**4.6** Understands the federal and state legal requirements relating, generally, to retirement plans and, specifically, to the URS and the retirement plans discussed in the PROJECTION REPORT.

## 5. PAYMENT

In exchange for the timely completion of the duties described in Section 3 of this AGREEMENT and fulfillment of the other terms and conditions of this AGREEMENT, LEGISLATURE agrees to pay (consultant) ______________, in the following manner:

**5.1** Upon completion of the duties described in Section 3 of this AGREEMENT, (consultant) shall submit to LFA a written statement itemizing the services provided under Section 3 of this AGREEMENT. (Consultant) shall submit the statement on or before ___________. (Consultant) shall not submit the statement before completion of the duties described in Section 3 of this AGREEMENT.

**5.2** Within 30 days after the day on which LFA receives the statement described in Section 5.1 of this AGREEMENT, LEGISLATURE shall pay to (consultant) ____________.

**5.3** The amount that LEGISLATURE is required to pay (consultant) under this Section 5 is the entire amount that LEGISLATURE is required to pay (consultant) for services provided by (consultant).

## 6. INDEPENDENT CONTRACTOR

**6.1** (Consultant) is an independent contractor and is not authorized, expressly or by implication, to bind the LEGISLATURE, a STAFF OFFICE, the State of Utah, or any member, office, officer, department, agent, official, or employee of the LEGISLATURE or the State of Utah to any agreement, settlement, liability, or understanding or to perform any act as agent for the LEGISLATURE, a STAFF OFFICE, the State of Utah, or any member, office, officer, department, agent, official, or employee of the LEGISLATURE or the State of Utah.

**6.2** (Consultant) is solely responsible to pay for all of (consultant's) materials, travel, and expenses and to pay each employee or subcontractor of (consultant) all wages, payments, expenses, fees, taxes, costs, insurance, and benefits of any kind relating to an employee or contractor of (consultant).

## 7. INDEMNITY

(Consultant) shall indemnify, defend, and hold forever harmless the LEGISLATURE, each STAFF OFFICE, the State of Utah, and each member, office, officer, department, agent, official, and employee of the LEGISLATURE and the State of Utah, in their individual and representative capacities, from and against any and all costs, losses, liabilities, damages, lawsuits, and claims, including, but not limited to, any claim for personal injury, death, or damage to personal property, or expenses (whether or not arising out of third-party claims), including without limitation court costs, reasonable attorney fees and disbursements, and all amounts paid in investigation, defense, or settlement in connection with, arising out of, resulting from, or relating to any services provided by, or action taken by, (consultant) under this AGREEMENT. The indemnification provided by (consultant) is not and may not be limited in any way for the amount or type of damages, compensation, or benefits payable by or for (consultant) or (consultant's) employees, agents, or subcontractors under workers' compensation acts, disability benefits acts, or other employee benefits acts. The remedy provided to the LEGISLATURE, each STAFF OFFICE, the State of Utah, and each member, office, officer, department, agent, official, and employee of the LEGISLATURE or the State of Utah by this indemnification is in addition to, and not in lieu of, any other remedy available under this AGREEMENT or otherwise. This indemnification obligation is not diminished or limited in any way to the total limits of insurance required for, obtained by, or available to the (consultant) or (consultant's) employees, agents, or subcontractors.

## 8. OWNERSHIP OF STUDIES, REPORTS, AND OTHER MATERIAL

**8.1** (Consultant) shall release to LFA all data and all finished and unfinished studies, reports, and all other material that (consultant) or (consultant's) employees, agents, or subcontractors possess or perform in relation to this AGREEMENT (in usable and manipulable electronic or hard-copy format, as specified by LFA) under the following circumstances:

**8.1.1** if (consultant) does not complete the duties required by this AGREEMENT; or

**8.1.2** within 30 days after the day on which LFA requests the data and finished and unfinished studies, reports, and other material.

**8.2** The data and finished and unfinished studies, reports, and other material described in Section 8.1 are the property of the LEGISLATURE.

## 9. SUBMISSION TO FINANCIAL AUDIT

(Consultant) and (consultant's) agents or subcontractors agree to participate in a financial audit to ensure compliance with the provisions of this AGREEMENT upon written request by the RETIREMENT SUBCOMMITTEE, under the following terms and conditions:

**9.1** The audit may be performed by the RETIREMENT SUBCOMMITTEE or an authorized representative of the RETIREMENT SUBCOMMITTEE.

**9.2** The audit may be performed no later than three years after the date of termination of this AGREEMENT.

## 10. PROHIBITION OF PAYMENT BY OTHER GRANT OR CONTRACT

Services performed under this AGREEMENT by (consultant) or any of (consultant's) employees, agents, or subcontractors may not be paid by any other grant or contract.

## 11. ASSIGNMENT PROHIBITED

(Consultant) may not assign this AGREEMENT, nor any duty or benefit relating to this AGREEMENT, without the prior written permission of the RETIREMENT SUBCOMMITTEE.

## 12. LIMITATIONS ON LOBBYING

Beginning on __________, and ending on _____________, neither (consultant) nor any employee, agent, or subcontractor of (consultant) may communicate with a public official as defined in Utah Code § 36-11-102 for economic consideration for the purpose of influencing the passage, defeat, amendment, or postponement of legislative or executive action relating to the subject matter of this AGREEMENT.

## 13. FINANCIAL DISCLOSURE AND CONFLICT OF INTEREST

(Consultant) attests that (consultant) is in good standing with all state, county, or federal agencies with whom (consultant) has a current, or has had a prior, contractual arrangement. Consultant further attests that there are no current or prior contractual or financial relationships between (consultant) or (consultant's) employees, agents, or subcontractors and the USDC, the USH, or a person or entity that is likely to receive a financial benefit or a financial setback based on the outcome of the audit described in this AGREEMENT.

## 14. TERMINATION OF AGREEMENT

**14.1** This AGREEMENT terminates on _________.

**14.2** This AGREEMENT may be terminated at any time before ________, if any of the following occur:

**14.2.1** LEGISLATURE and (consultant) agree, in writing, to terminate this AGREEMENT at an earlier date.

**14.2.2** If either party materially breaches this AGREEMENT and, following the breach:

**14.2.2.1** the non-breaching party gives written notice of the breach to the breaching party; and

**14.2.2.2** at least seven days after the day on which the breaching party receives the notice described in Section 14.2.2.1, the non-breaching party sends a written notice of termination to the breaching party, unless, before the end of the seven-day period described in this Section 14.2.2.2, the breaching party cures the breach.

**14.3** A material breach by (consultant) includes, but is not limited to:

**14.3.1** Failure to provide the services or reports described in this AGREEMENT by the deadline provided for in this AGREEMENT.

**14.3.2** Making a misrepresentation in, or under, this AGREEMENT.

**14.3.3** Making a misrepresentation in response to the RFP.

**14.4** If this AGREEMENT terminates under Section 14.1, (consultant) is not relieved of (consultant's) obligations under Sections 6 through 10, Section 12, and Sections 14 through 17 of this AGREEMENT.

**14.5** If this AGREEMENT terminates under Section 14.2.1:

**14.5.1** (consultant) is not relieved of (consultant's) obligations under Sections 6 through 10, Section 12, and Sections 14 through 17 of this AGREEMENT; and

**14.5.2** payment and other terms relating to the services performed under this AGREEMENT will be expressed in the written document described in Section 14.2.1.

**14.6** If this AGREEMENT terminates under Section 14.2.2 due to a breach by (consultant):

**14.6.1** (consultant) is not relieved of (consultant's) obligations under Sections 6 through 10, Section 12, and Sections 14 through 17 of this AGREEMENT; and

**14.6.2** LEGISLATURE is not required to pay, and consultant is not entitled to receive, the payment described in Section 5, or any payment.

**14.7** Termination under Section 14.2.2 does not relieve either party of liability for any default prior to the termination.

## 15. GOVERNING LAW

This AGREEMENT shall be construed in accordance with, and governed by, the law of the State of Utah, without reference to principles governing choice or conflicts of laws. The parties will submit to the jurisdiction of the courts of the State of Utah for any dispute arising out of this AGREEMENT or the breach of this AGREEMENT. Venue shall be in Salt Lake City, Utah, in the Third Judicial District Court for Salt Lake County.

## 16. EQUAL OPPORTUNITY

(Consultant) agrees to abide by the provisions of Titles VI and VII of the Civil Rights Act of 1964 (42 USC 2000e), which prohibit discrimination against any employee or applicant for employment or any applicant or recipient of services, on the basis of race, religion, color, or national origin; and further agrees to abide by Executive Order 11246, as amended, which prohibits discrimination on the basis of sex, 45 CFR 90 which prohibits discrimination on the basis of age, and Section 504 of the Rehabilitation Act of 1973 or the Americans with Disabilities Act of 1990 which prohibit discrimination on the basis of disabilities. (Consultant) further agrees to abide by Utah's Executive Order, dated March 17, 1993, which prohibits sexual harassment in the work place.

## 17. SEVERABILITY

A declaration by any court, or any other binding legal source, that any provision of this AGREEMENT is illegal and void does not affect the legality and enforceability of any other provision of this AGREEMENT, unless the provisions are mutually dependent.

## 18. DEBARMENT

(Consultant) certifies that neither (consultant) nor (consultant's) principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any government department or agency from participation in this AGREEMENT. If (consultant) cannot certify this statement, (consultant) has provided to LFA and attached to this AGREEMENT a full written explanation of (consultant's) inability to certify this statement before the execution of this AGREEMENT.

## 19. INCORPORATION OF PROVISIONS OF RFP

The provisions of the RFP are hereby incorporated into this AGREEMENT by reference. If any conflict exists between the RFP and this AGREEMENT, the terms and conditions of this AGREEMENT prevail.

## 20. MERGER

This AGREEMENT constitutes the entire agreement between the parties with respect to the subject matter contained in this AGREEMENT. There are no covenants, terms, or conditions, express or implied, written or unwritten, that govern the subject matter of this AGREEMENT, except as expressly described in this AGREEMENT. This AGREEMENT supersedes all prior agreements between the parties relating to all or part of the subject matter contained in this AGREEMENT.

## 21. MODIFICATION OF AGREEMENT

This AGREEMENT may be modified only in a written document, signed by:

___________, on behalf of the LEGISLATURE and ______________, on behalf of (consultant).

## 22. AUTHORITY TO BIND

(Consultant) and the person who signs this AGREEMENT on behalf of (consultant) represent that the person who signs this AGREEMENT has the authority to bind (consultant), and does, by signing this AGREEMENT, bind (consultant) to the terms and conditions of this AGREEMENT.

In witness whereof the parties have executed this AGREEMENT as follows: